REMARKS/ARGUMENTS

Prior to entry of this Amendment, claims 8-16 and 24-38 were present for examination in this application. No claims are amended, canceled, or added by this paper. Therefore, claims 8-16 and 24-38 are now present for examination, and claim 8 is the independent claim. No new matter is added.

Applicant respectfully requests reconsideration of the application in light of the following remarks.

Claim Rejections Under 35 U.S.C. § 112

Claims 8-16 and 24-38 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Office Action contends that the limitation that the first and second thermal modules be *substantially rigid* is "not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention." (Office Action pp. 2-3).

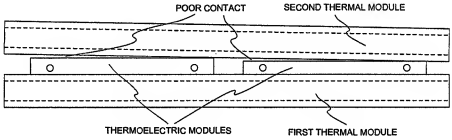
Applicant respectfully traverses.

Applicant recognizes that the specification does not explicitly describe the blocks as *substantially rigid.* However, the fact that the blocks are *substantially rigid* is implied throughout the specification, and implicit support for a claim term is sufficient to meet the requirements of 35 U.S.C. § 112. (MPEP 2163).

As is well known, efficient performance of a thermoelectric generator requires good thermal contact between the each thermoelectric module and the hot and cold thermal elements on the two sides of the thermoelectric module. Thermoelectric modules of the kind described in the present application have planar surfaces. (Figure 2).

Applicant describes an arrangement where multiple thermoelectric modules are in contact with a single planar face of a first thermal module (the center module shown in Figures 1 and 2). For efficient heat transfer, it is important that the second thermal modules (e.g. the parts of the module 3 in Figure 1) on the other sides of the thermoelectric modules also make good thermal contact with the thermoelectric modules. If there is mechanical variation in the height of

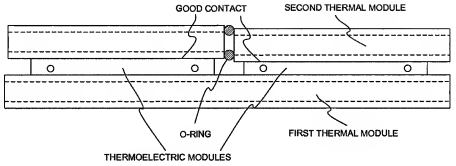
the thermoelectric modules, then a single rigid second thermal module that tries to span two or more thermoelectric modules may contact only corners or edges of the thermoelectric modules, and may not make good thermal contact across the planar faces of both thermoelectric modules. This situation is illustrated below.



Possible solutions to this problem alluded to in the specification include sorting parts into matching sets that can fit together with good thermal contact, or machining or lapping certain parts to fit. (Abstract). For example, if the top surfaces of the two thermoelectric modules shown above were to be made coplanar, then the two thermoelectric modules could be sandwiched between the two rigid thermal modules with good thermal contact at all planar surface interfaces.

Another possible approach is to make one of the thermal modules compliant and not rigid. This is the approach taken by DeBucs. If one of the thermal modules is compliant, then multiple thermoelectric modules can be pressed between two thermal modules, and good contact assured by the compliant thermal module conforming to any variations in height between the thermoelectric modules.

By contrast, Applicant describes and claims a different approach. Applicant's substantially rigid second thermal modules are separate blocks so that a side of each contacts only one thermoelectric module. This allows the second thermal modules to be independently positioned to conform to the planar surfaces of the thermoelectric modules, making good thermal contact, as is shown below. In some embodiments, the blocks are flexibly coupled together for expandability, while still allowing good thermal contact.



Many parts of the specification provide implicit support for the fact that the thermal modules are *substantially rigid.*

First, the fact that the second thermal modules are formed from bifurcated blocks flexibly coupled together strongly implies that the modules are rigid. In response to Applicant's previous arguments to that effect, the Examiner argues that "any flexible block can as well be bifurcated...." (Office Action p. 4). Even if a flexible block could be bifurcated, there would be no reason to do so, because good thermal contact could be accomplished with a flexible block without bifurcation. The Office Action also misinterprets Applicant's reference to compression of the blocks as evidence that Applicant's blocks are flexible. (Office Action p. 4). Compression is helpful for both rigid and non-rigid thermal elements, and Applicant has not argued otherwise. Bifurcation, on the other hand, is only needed for rigid blocks, because compression alone can result in good thermal contact for flexible thermal elements.

The Office Action contends that only one of Applicant's "cold blocks" 3 is shown as bifurcated, and not the other "cold block" 1 or the "hot block" 7. (Office Action p. 4). This contention is incorrect. Both elements 1 and 3 are clearly shown as bifurcated, to form multiple thermal modules. Figures 1 and 3 are reproduced below with added annotation to point out the bifurcations of both elements 1 and 3.

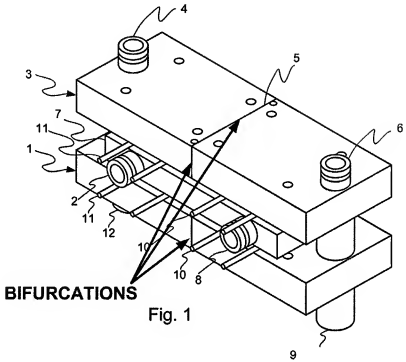


Fig. 1

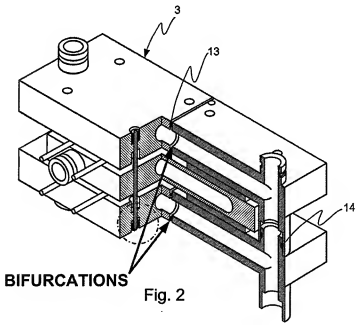


Fig. 2

The fact that thermal module 7 is not bifurcated does not suggest that module 7 is flexible. All four of the thermoelectric generator modules 11 shown in the Figures can have flat

faces in full contact with flat faces of thermal module 7 even though thermal module 7 is substantially rigid. Each of the four separate second thermal modules formed from blocks 1 and 3 can then move to make contact with the other face of a respective the thermoelectric module, to maintain good contact at all faces.

Second, the need for good thermal conductivity implies that the thermal modules are made of a metal, and therefore rigid. In response, the Office Action argues that DeBucs shows metal thermal elements that are flexible. (Office Action p. 4). However, as is clear from DeBucs, its thermal elements are thin-walled tubes. As is evident in Figure 2 above, Applicant's blocks are clearly thick walled, and are clearly expected to be rigid.

Third, the O-ring seal between Applicant's thermal modules, maintained by a "dogleg feature", requires a level of strength and rigidity of the blocks that strongly implies that the blocks are rigid. In response, the Office Action argues that "the dogleg feature is merely utilized in order to connect the adjacent blocks." (Office Action p. 5). The Office Action incorrectly ignores part of the function of the dogleg features. The dogleg features do not merely connect the blocks, but they also maintain pressure on the O-rings. (Specification paragraph [0011]). This function of the dogleg features requires sufficient strength and rigidity to maintain adequate sealing pressure.

Finally, Applicant notes that the specification suggests as alternatives to the invention "lapping or machining" of parts to achieve good contact. (Abstract). Machining and lapping are manufacturing processes performed on rigid materials.

Taken as a whole, the specification clearly demonstrates that at the time the application was filed, the Applicant contemplated *substantially rigid* thermal modules, and one of skill in the art would readily realize that fact upon reviewing the specification. In fact, the need for the invention arises from the very fact that the modules are substantially rigid.

Interview Request

Applicant believes the rejection to be incorrect, and respectfully requests that it be withdrawn. However, if the rejection is to be maintained, Applicant requests an in-person interview with the Examiner and the Examiner's supervisor, to take place at the US Patent and Trademark Office in early April, 2011.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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